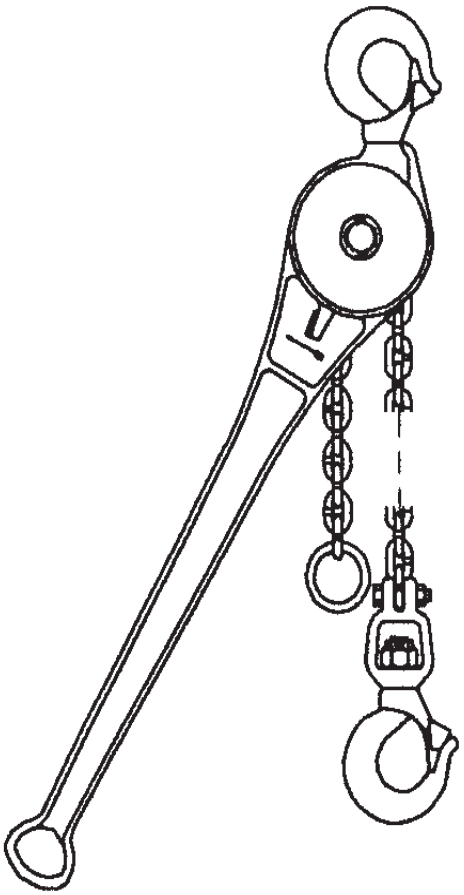
CHANCE HOIST INSTRUCTION MANUAL

OPERATING & SERVICING THE CHANCE ONE-TON CHAIN HOIST



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HUBBELL® POWER SYSTEMS, INC.

CHANCE®

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210 N. Allen Centralia, Missouri 65240

Part No. P309-0360
(Rev. R 12/01)

CHANCE ONE-TON HOIST

The One-Ton Hoist is rated to lift loads up to and including 2,000 pounds. Relatively light in weight, these rugged hoists are well-balanced for easy handling and fast operation.

• Simple Controls are Easy to Operate

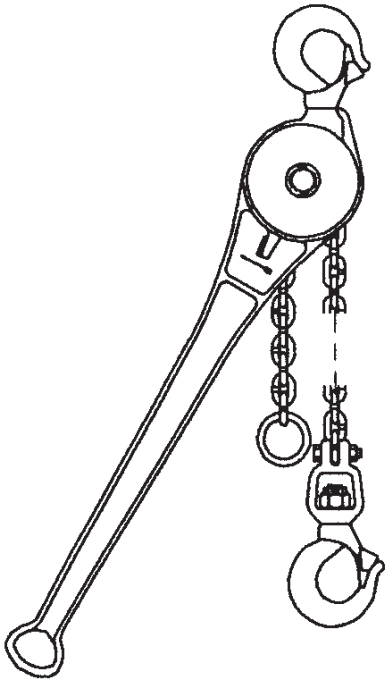
The simple controls can be operated without removing heavy work gloves or rubber gloves. Linemen like its well-balanced, easy-to-grip handle . . . the half-link and full-link take-up for accuracy and speed. There are easy-working hooks on both the housing and chain that swivel freely to allow for unwinding action of rope or wire under tension. The hooks can be pulled in to a minimum distance of 11 inches for working in cramped quarters. The chain "free wheels" for ease in hooking to the load. The control lever locks automatically when the hoist is pulling a strain . . . thus a load cannot be accidentally dropped.

• Ratchet-type Handle

Note that the handle is shaped for easy gripping . . . has a ball-end to keep the hand from slipping off. This ratchet-type handle can be operated from either side of the housing . . . to avoid guys, poles, conductors, or other obstructions that would interfere with the lever-motion of the handle. The flexible, heavy-steel load chain will not kink, bind or uncouple.

• Simple, Sturdy Construction

The hoist housing and handle are made of heat-treated aluminum; the one piece shaft of hardened steel. Extremely simple, yet sturdy, the construction of the Chance Hoist insures long, dependable service. All working joints are fitted with permanently-lubricated oilite bearings. All working parts are fully enclosed in the housing unit—to provide protection for the hoist mechanism, and to cover gearing for safety.



ONE TON HOIST

One-Ton Hoist (5½-Ft. Lift)

Catalog No.	Description	Approx. Wt., Lbs.
3011S	One-Ton Hoist: Safety Hooks Both Ends	14½

⚠CAUTION

The equipment covered in this instruction guide should be installed, used, and serviced only by competent personnel familiar with and following good work and safety practices. This equipment is for use by such personnel and is not intended as a substitute for adequate training and experience in safe procedures for this type of equipment.

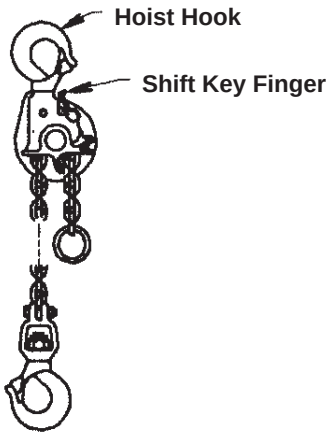
The information contained in this instruction guide has been compiled as a result of review of the product, its intended application and use considerations. However, this instruction guide does not cover all details or situations in equipment use nor does it provide for every possible contingency to be encountered in relation to installation, operation or maintenance. Should additional information and details be desired or specific situations arise which are not covered adequately for the user's purpose, consult your supervisor and the appropriate rules for safe work practices.

OPERATING INSTRUCTIONS FOR THE CHANCE ONE-TON HOIST

TO POSITION HOIST FOR USE:

⚠WARNING

When placing the hoist in operating position, care must be taken to make sure that the load hook and the housing hook of the hoist are on the same centerline. If the hoist is restricted from adjusting itself to form a straight line with the direction of loading, damage to the hoist could occur.



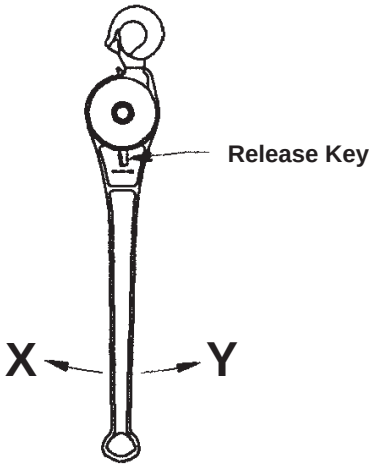
The hoist may be operated in any convenient position and the handle may be operated on either side of chain as shown by the arrows X and Y (above) on the drawings, to provide an upward or downward stroke for lifting or lowering. Generally it is more convenient to lift or lower on a downward stroke. To put the hoist in free-wheeling, turn the shift key finger to the "Dn" (down) position and hold the release key in the direction of the arrow. Pull the chain in the "Up" direction approximately 2 links then pull on the hook side of the chain to get sufficient slack to hook onto the load. To take up slack, simply pull on the free end of the chain, the hoist will ratchet even though the release key is not depressed.

TO LIFT A LOAD:

Turn the shift key finger to "Up" and operate the handle. The handle may be operated on either side of chain as shown by the arrows (X) and (Y) on the drawing.

TO LOWER A LOAD:

Turn the shift key finger to "Dn" (down) and operate the handle. The handle may be operated on either side of chain as shown by the arrows (X) and (Y) on the drawing.



TO SHIFT HANDLE:

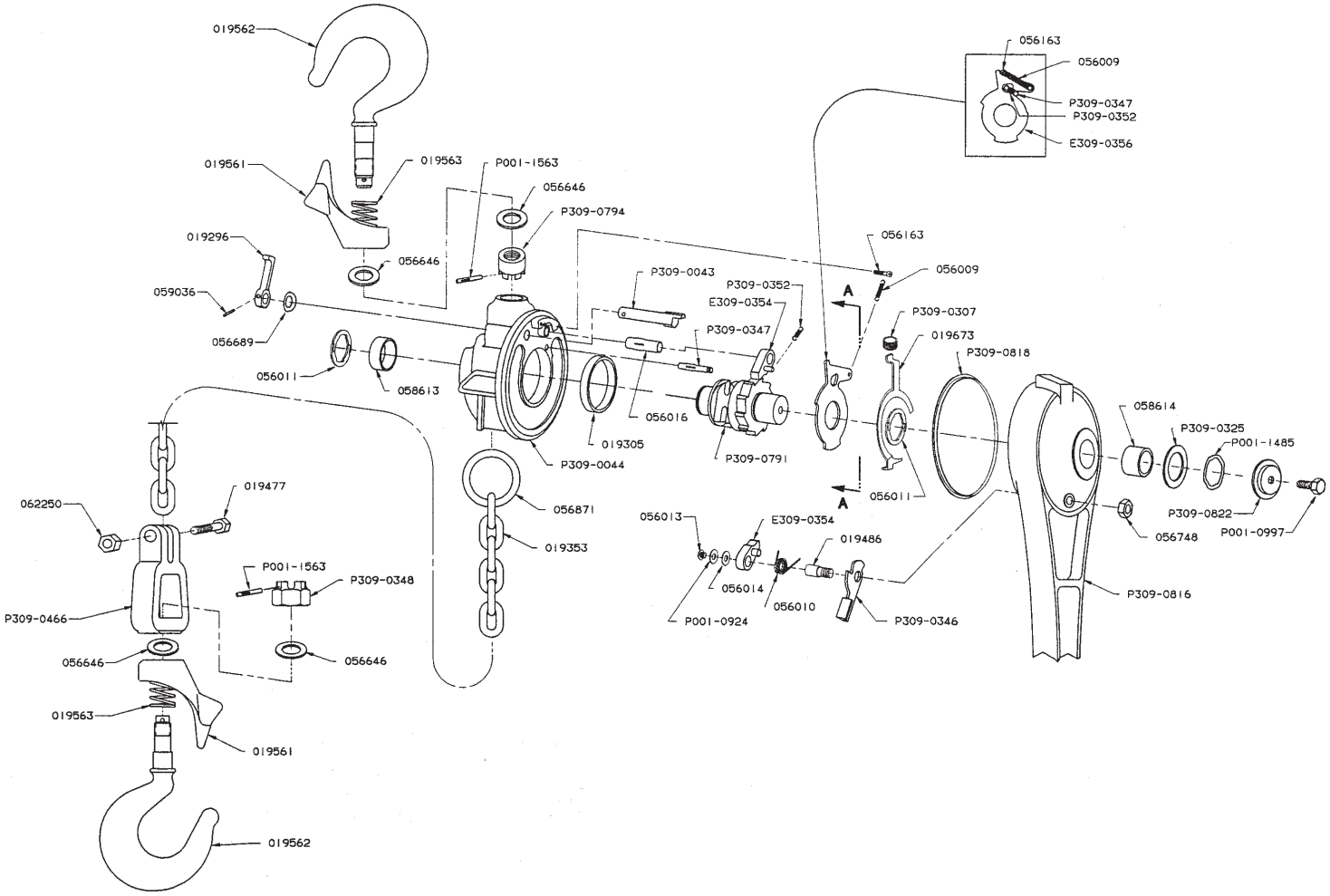
To change position of handle from side marked X to side marked Y press release key in direction of arrow.

CARE

The Chance Hoist is designed to provide long and rugged service. Observing the suggestions listed below will increase the service life of the hoist:

1. The hoist should be inspected, cleaned and re-lubricated periodically depending on usage conditions.
2. When lowering a light or "bouncing" load do not flip or otherwise cause the handle to become self-ratcheting. Allowing the handle to self-ratchet causes undue wear on the stop areas and reduces the wear life of the hoist. In addition, the free-ratcheting handle could strike the operator.
3. When operating the handle it is not necessary to "slam" the handle past the ratcheting position. Constant impact will increase wear of the hoist mechanism.

Repair Parts List for Chance One-Ton Hoist



	Part No.
*HANDLE SUBASSEMBLY	E309-0819
*Handle	P309-0816
Oilite Bearing	058614
Pin	019486+
Release Key	P309-0346+
Hex Jam Nut	056748+
Stop Bolt	019673+
Spring	056010+
Machine Screw	056013+
Washer (Bronze)	056014+
Dog Assembly	E309-0354+
Lockwasher	P001-0924
HOUSING SUBASSEMBLY	
(SAFETY)	070217
Housing	P309-0044
Nut	P309-0794
Washer	056646
Shift Key	P309-0043
Shift Key Finger	019296+
Screw	056163+
Oilite Bearing	058613
Oilite Bearing	019305
Pin	059036+
Washer (Spring)	056689+
Hook	019562
Safety Latch	019561
Spring	019563
Pin	P309-0347+
Groove Pin	P001-1563
Pin	056016

	Part No.
DOG ASSEMBLY	
Subassembly	E309-0354+
Dog (Pawl)	P309-0353
Pin	P001-1368
UNLOADER PLATE	
Subassembly	E309-0356+
CHAIN & HOOK ASSEMBLY	
W/Safety Hook (Comp)	024000
Chain (All)	019353
Swivel (All)	P309-0466
Thrust Washer	056646
Hex Nut (All)	P309-0348
Groove Pin	P001-1563
Bolt (All)	019477
Hex Nut (All)	062250
Hook	019562
Safety Latch	019561
Spring	019563

	Part No.
REMAINING PARTS NOT REQUIRING SUBASSEMBLIES	
Shaft	P309-0791
Spring	P309-0307+
Spring	056009+
Spring	P309-0352+
Snap Ring	056011+
Washer	P309-0325+
Wear Strip	P309-0818+
Ring	056871
Washer	P001-1485
Cap	P309-0822
Bolt	P001-0997
LUBRICANTS AVAILABLE	
Chance Tool Lube	M1909+

+C309-0349 Repair Kit—Includes all items marked +

*New Shift Key (P309-0043) required if handle (or handle ass'y) is replacing No. 24433 or No. 19671 handle ass'y, or handle.

Disassembly Instructions for Periodic Inspection and Repair or Replacement of Parts for One-Ton Hoist

In order to best visualize these instructions, study and refer to the exploded view of the hoist.

1. Remove bolt (P001-0997) from shaft (P309-0791). Remove cap (P309-0822), washer (P001-1485) & spacer (P309-0325) if used.

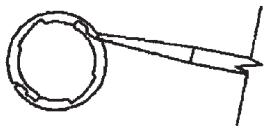
2. Push "release key" (P309-0346) in the indented area of the handle in the direction marked "release" to disengage the handle dog (E309-0354) from the unloader plate and lift handle (P309-0816) off the shaft. This will expose the mechanism.

3. The housing dog (E309-0354) may be removed by first removing screw (56013) and washer (56014) from the post supporting the dog. Torsion spring (56010) can be removed, after the dog, if needed.

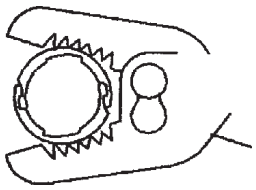
4. When reassembling handle dog (E309-0354) and spring (56010), place the short leg of the spring to the pin on the dog, and the long leg of the spring against handle housing (P309-0816).

5. If necessary to replace the dog post (19486) or release key (P309-0346) remove nut (56748)) and press the dog post out of housing (P309-0816) with a careful and steady force. In replacing the new dog post, be certain it is pressed in straight, using an even pressure, and that release key is in position before pressing post into housing.

6. The housing dog (E309-0354) can be removed by unhooking the long extension spring (56009) from the unloader plate (E309-0356) and screw (56163) in the housing and the short extension spring (P309-0352) from the dog post and spring anchor pin (P309-0347). Remove snap ring (56011) and remove unloader plate and lift dog (E309-0354) off post.



To remove Interlocking Snap Ring, pry one end apart using screwdriver. Parts may fly away when Ring unsnaps.



To reinstall, hook one end and close with pliers.

7. In replacing the housing dog, make sure the pin which is permanently secured to the dog is faced to the outside, so that it will project through the unloader plate, when unloader plate is replaced on the shaft.

8. To remove shaft (P309-0791) (the ratchet gear and chain socket are integral), remove ring (056871) and free the end of the chain (19353). This will allow the chain to be "pulled" through the housing. Then by removing interlocking snap ring (56011), the shaft can be slid through its bearing.

9. Hook (19562) is assembled to housing (P309-0044) and the nut is pinned in place. If hook is to be replaced, it must be sawed through shank adjacent to the top of the housing.

10. The shift key (P309-0043) can be removed by backing out the drive-lock pin (59036) holding the shift key finger (19296) to the shift key.

11. The Oilite bearings (58613, 58614, 19305) can be removed and replaced by pressing them out and pressing the new ones in.

To reassemble, follow these instructions in the reverse manner replacing parts in the same position as noted when removed. It is important that the hoist be inspected, cleaned, and relubricated periodically depending on working conditions.

Periodic Maintenance

The hoist is designed to provide rugged service. Initiating a program of periodic inspection, cleaning, and repair will increase the service life of the hoist.

Time intervals between routine cleaning and inspection will depend entirely upon severity of usage and the environment in which the hoist is operated. A program of regular maintenance can best be determined by the user to suit his particular needs.

Without question, any hoist not functioning properly or showing external damage should be tagged as defective and sent to the repair area.

Extensive repairs should be attempted only by personnel with a reasonable degree of mechanical aptitude. Sound judgment must be exercised in determining degree or extent of repairs necessary. Replacing a single faulty part in an otherwise worn assembly is not as desirable as an an extensive rebuild. Hoists returned to the A. B. Chance Company for repair are thoroughly cleaned, checked, and rebuilt to "near new" condition.

INSTRUCTIONS FOR SERVICING THE CHANCE ONE-TON HOIST

Procedure

1. Check operation of the hoist thoroughly by lifting and lowering a minimum of 500 lb. (rated load preferred). Lifting and lowering operations should be checked by operating the hoist in the two positions of operation, that is, using both downward and upward strokes to lift and lower the test load.

2. After load testing, thoroughly examine the exterior hoist parts for damage. Check hooks for bending or "opening" caused by incorrectly loading the hook tip, or jamming the housing out of line during loading—replace if bent or opened. For swivel hook models, inspect bearings for wear. On all models check all castings for wear, taking corrective measures if necessary.

3. Disassemble hoist carefully, refer to disassembly instructions and exploded view of hoist components. Wash all parts in a suitable cleaner, remove all oxides and foreign material. Examine mechanism for damaged or excessively worn parts, refer to the accompanying photographs for typical examples. Replace all parts showing evidence of excessive wear or indications of damages. Particular attention should be given to the following areas:

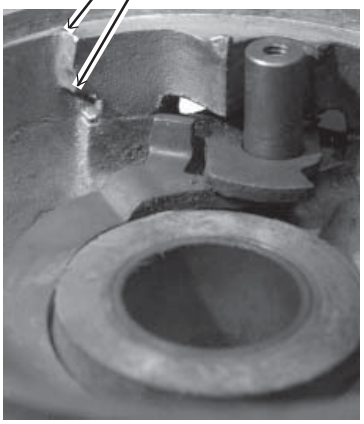


FIG. 1
PRINCIPLE "STOP" AREA OF HANDLE

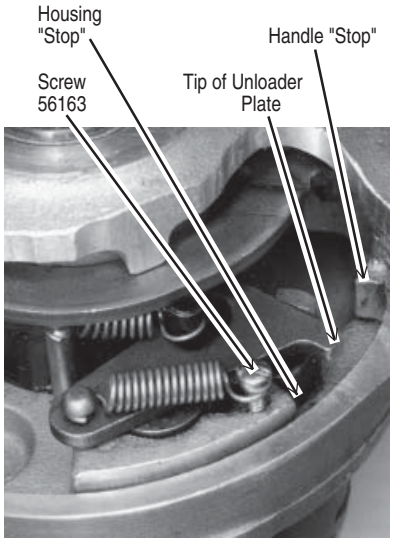


FIG. 2
CUT AWAY VIEW OF "STOP" AREA

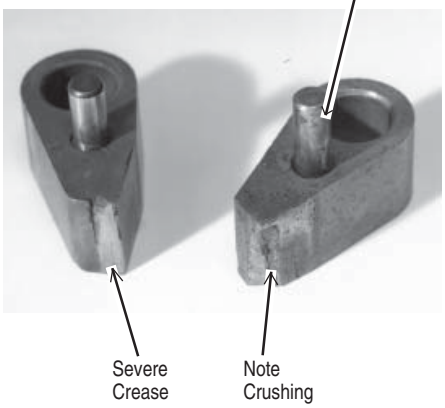


FIG. 3
DAMAGED PAWLS

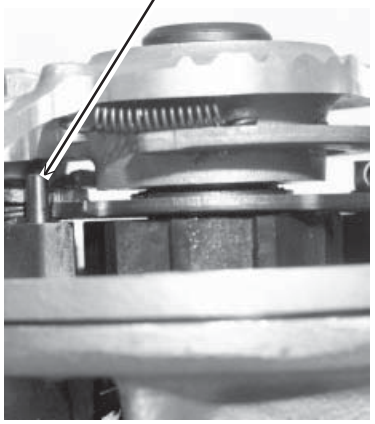


FIG. 4
CUT AWAY SHOWING PAWL PIN & UNLOADER PLATE RELATIONSHIP

A. **Handle Sub-Assembly** (E309-0819 & Related Parts) All handles marked with Part No. "19671", no revision letter or "19671-F" should be replaced with E309-0819 because of possible part interchangeability problems.

(1) Examine "stop surfaces for impact damages caused by such improper practices as allowing handle to self-ratchet, and "slamming" the handle unnecessarily during use. Refer to fig. 1.

Excessive battering and subsequent eroding, of the "stop" surfaces, on both the handle and housing, can cause shearing of the housing spring retaining screw (56163). As the surfaces are eroded away, the clearance between the tip of the unloader plate and the screw is reduced enough to allow the unloader plate to strike the screw. Refer to Fig. 2. Screw shearing, can also occur if the hoist is allowed to "self-ratchet", the momentum of the unloader plate can cause it to exceed its normal amount of travel and strike the spring screw.

(2) Handle damage caused by apply "cheaters" (extensions) to increase leverage and other improper practices is quite common on hoists returned to the factory for repair. Such hoists may have been dangerously overloaded as a result of such usage. Any hoist exhibiting evidence of this type of treatment, and even undamaged hoists, should be most carefully examined—particularly the principle load carrying members. The holding and working dog assemblies (pawls) must be checked and replaced if they show any evidence of creasing, chipping, or cracking. The ratchet teeth on the forged heat treated shaft (P309-0791) must be checked for missing or damaged teeth, and replaced if necessary. Refer to Fig. 3 & 10.

(3) The handle dog (pawl) should be examined for damage as outlined in part (2), and in addition, the dog pin (19315) should be examined for bending or wear in the area that the pin contacts the camming surface of the unloader plate. Refer to Fig. 3 & 4.

(4) Stop bolt 19673. Check for bending or breakage. Replace if necessary.

B. **Housing Sub-Assembly** (070217) and related parts.

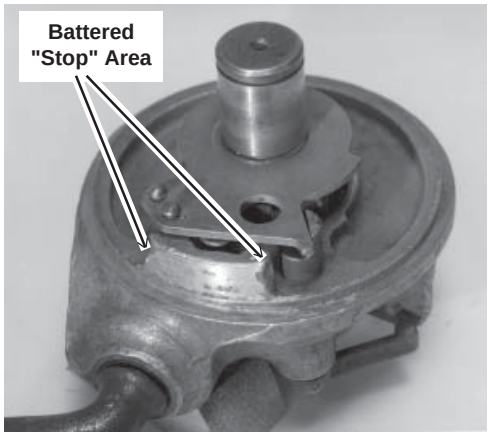
(1) Examine "stop" surfaces, the mating surfaces to the handle "stops". Reasons for damage and possible malfunctions are the same as outlined in section A, part (1). Replace housing if damaged or worn. Refer to Fig. 5.

(2) Housing Hook should be replaced if the hook has been sprung or bent by misuse. Refer to disassembly instructions for replacement procedure.

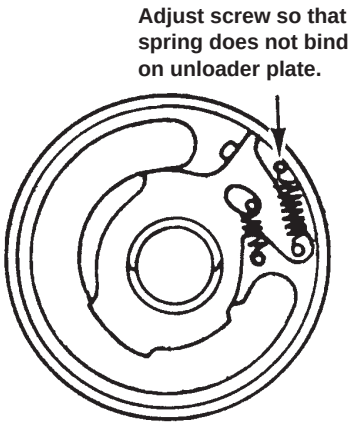
Excessive hook play in the housing may be an indication that the bearing seat in the aluminum housing is worn, in which case, replace the housing. Refer to Fig. 6 for correct hook adjustment.

(3) Shift key (P309-0043) should be examined for breakage or bending, particularly the camming surfaces. Fig. 7 and Fig. 8 show the correct position of the shift key when the shift key finger (19296) is in "up" or "dn" position.

(4) Shaft (P309-0791). Factory replacement of this part is seldom necessary on hoists returned for repair. Replacement is generally required because of extreme mistreatment of the hoist: Breakage of the ratchet teeth caused by severe shock loading, or repeated self-ratcheting; using the hoist as a maul; foreign matter carried into the chain pockets and wedging, causing breakage of the chain pocket sides. Fig. 9 & 10.



Damaged Housing



New Housing

FIG. 5

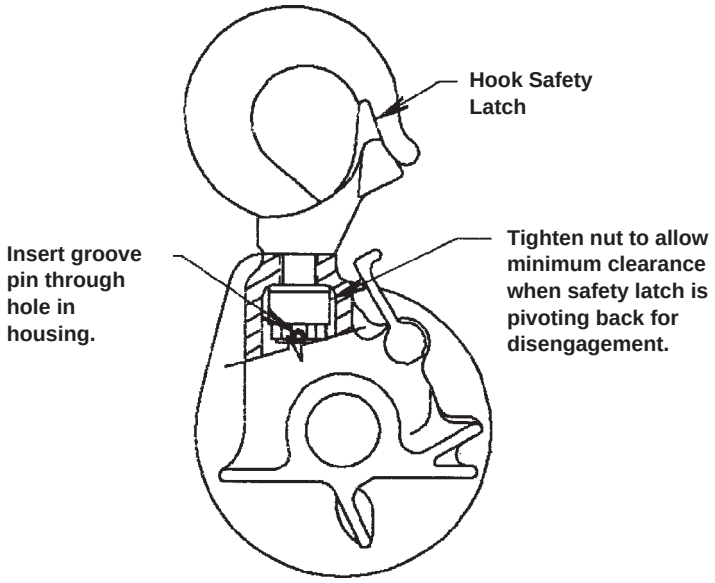


FIG. 6 Safety Hook Housing

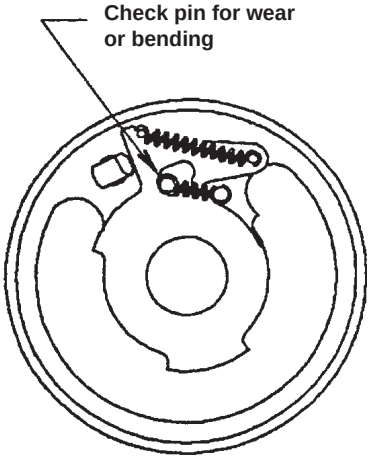


FIG. 7 Shift Key in "Up" Position

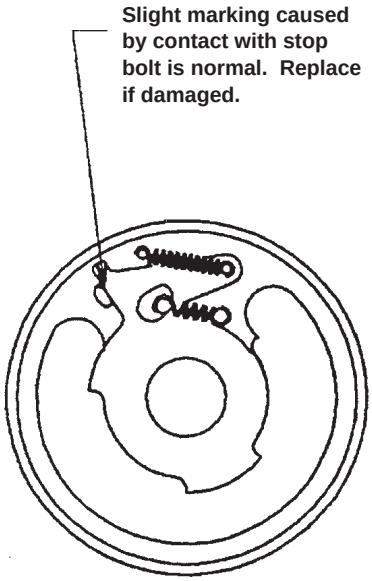


FIG. 8 Shift Key in "Down" Position

OLD **NEW**

(5) Unloader plate (E309-0356) inspect for breakage or wear on camming surfaces.

Chain: Examine links for damage or wear. Thoroughly clean and remove any oxides or dirt. Coat chain with a light coat of machine oil.

4. **Lubrication:** After repairs or routine cleaning the hardened steel parts should be lightly lubricated with grease. Greases that become stiff when exposed to cold should not be used—they impair the mechanism.

   Working conditions will dictate frequency of lubrication and cleaning. Use in sandy or dusty areas will require frequent servicing. Exposure to salt spray or other corrosive environment will also increase necessity for servicing.

5. **Reassemble:** Recheck operation thoroughtly, as specified in Sec. 1. This is most important!

   Any hoist not functioning properly after servicing, or disassembly, when the reason for malfunctioning cannot be determined, should be returned to the A.B. Chance Company for rework.

   Date of repair or inspection should be stamped on the housing.

   To best visualize the principle of opertation of the chain hoist a cut-away handle, similar to the one pictured in this manual, can prove invaluable. Trouble shooting malfunctions in hoists can also be aided by a cut-away handle.

NOTE: Because Hubbell has a policy of continuous product improvement, we reserve the right to change design and specifications without notice.